

METHOD OF PROTECTING THE POLE PIECE OF A MAGNETIC HEAD
DURING THE ION MILL PATTERNING OF THE YOKE

This application is a DIV of 10/156,633 05/28/2002 ABN

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to methods of making magnetic heads, and more particularly to methods of making magnetic heads which protect the P2 pole piece during the ion mill patterning of the yoke.

2. Description of the Related Art

A write head is typically combined with a magnetoresistive (MR) or giant magnetoresistive (GMR) read head to form a read/write recording head, certain elements of which are exposed at an air bearing surface (ABS). The write head is made of first and second pole pieces having first and second pole tips, respectively, which terminate at the ABS. The first and second pole pieces are connected at the back gap, whereas the first and second pole tips are separated by a non-magnetic gap layer. An insulation stack, which comprises a plurality of insulation layers, is sandwiched between the first and second pole pieces, and a coil layer is embedded in this insulation stack. A processing circuit is connected to the coil layer for conducting write current through the coil layer which, in turn, induces write fields in the first and second pole pieces. Thus, write fields of the first and second pole tips at the ABS fringe across the gap layer. In a magnetic disk drive, a magnetic disk is rotated adjacent to, and a short